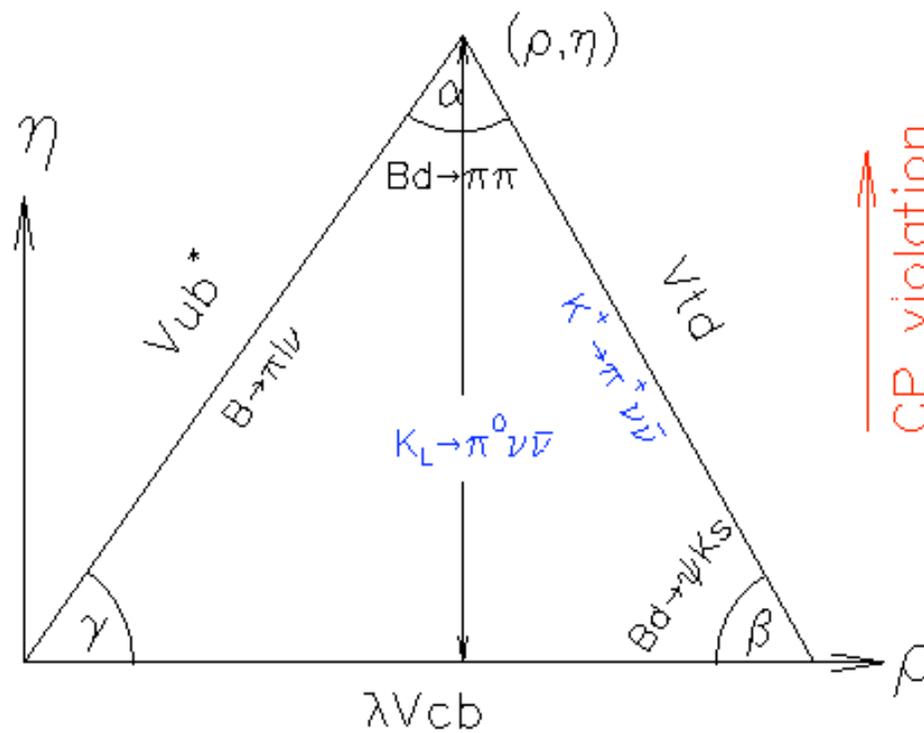


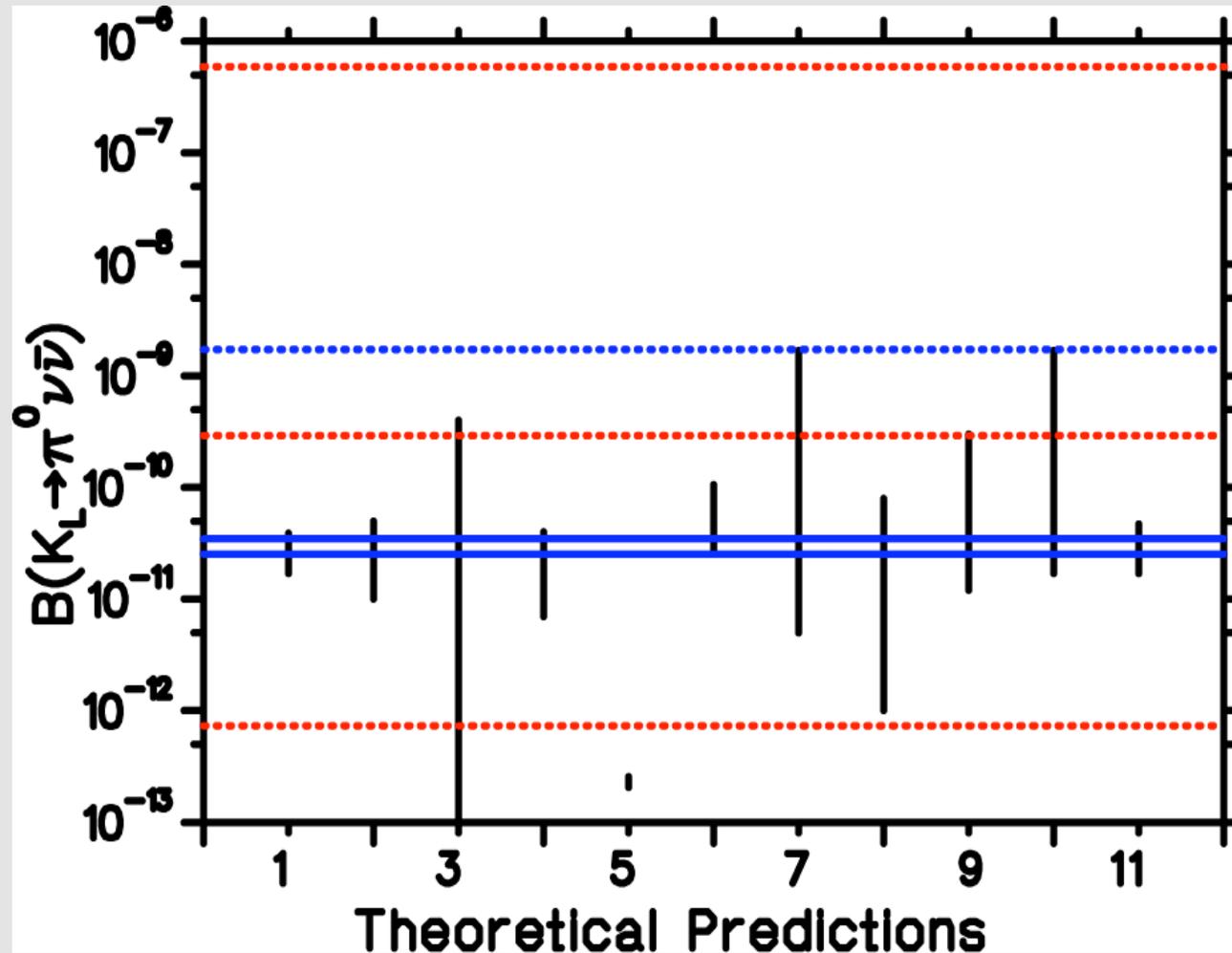
KOPIO EXPERIMENT AT BN

CAROL SCARLETT
BROOKHAVEN NATIONAL LABORATORY
UPTON, NEW YORK

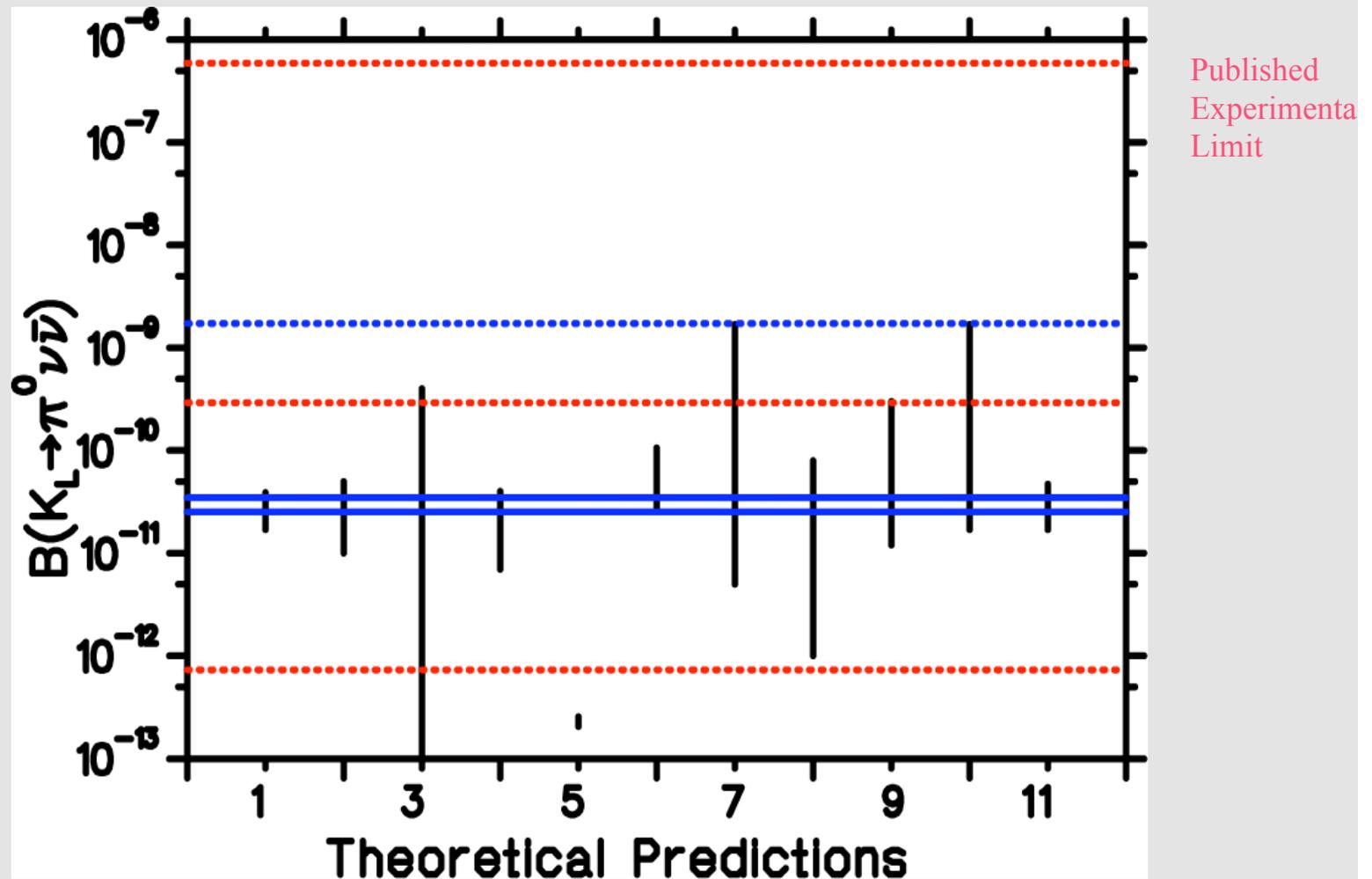
CP VIOLATION IN SM



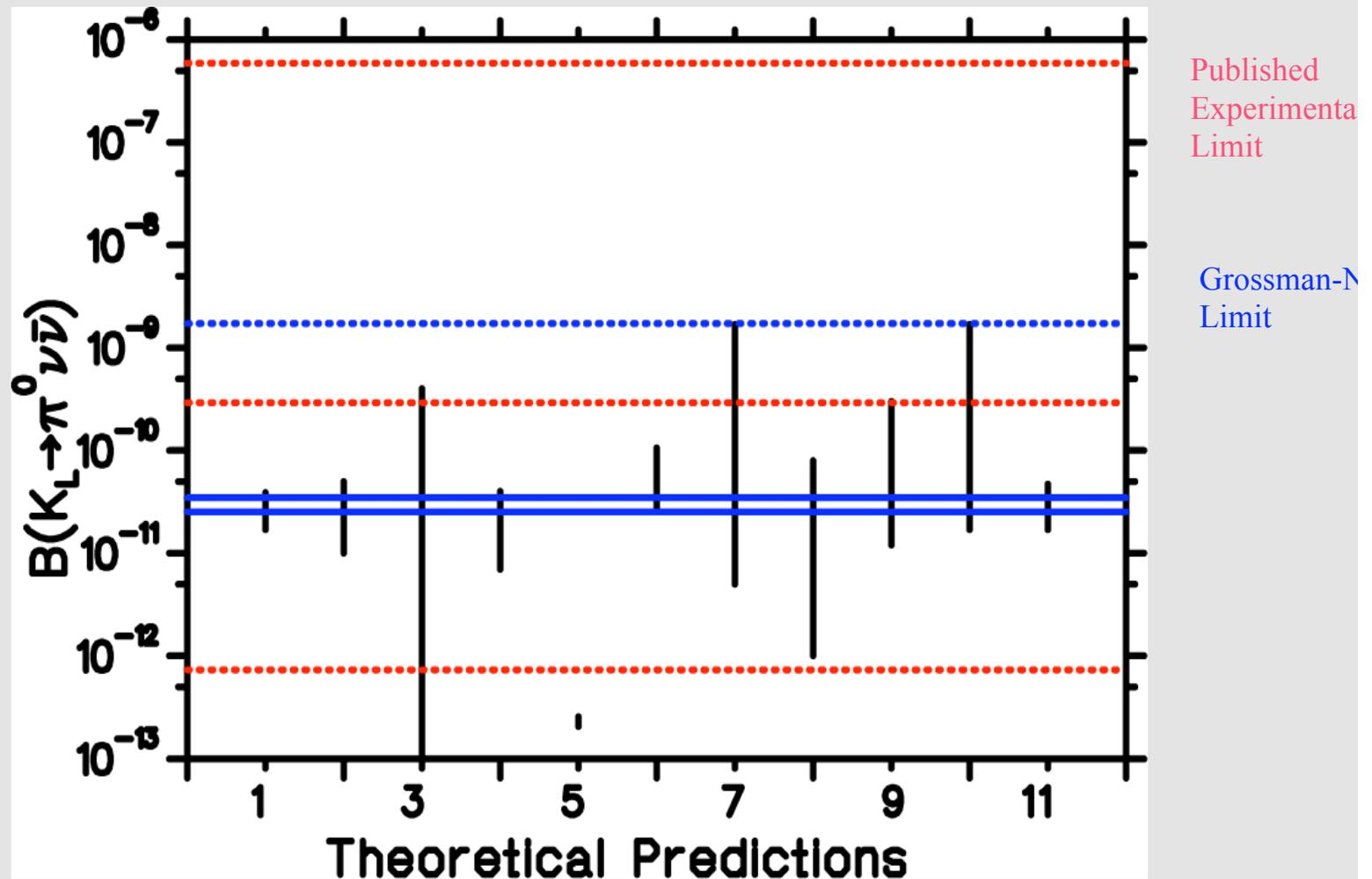
HISTORY & EXPECTATIONS



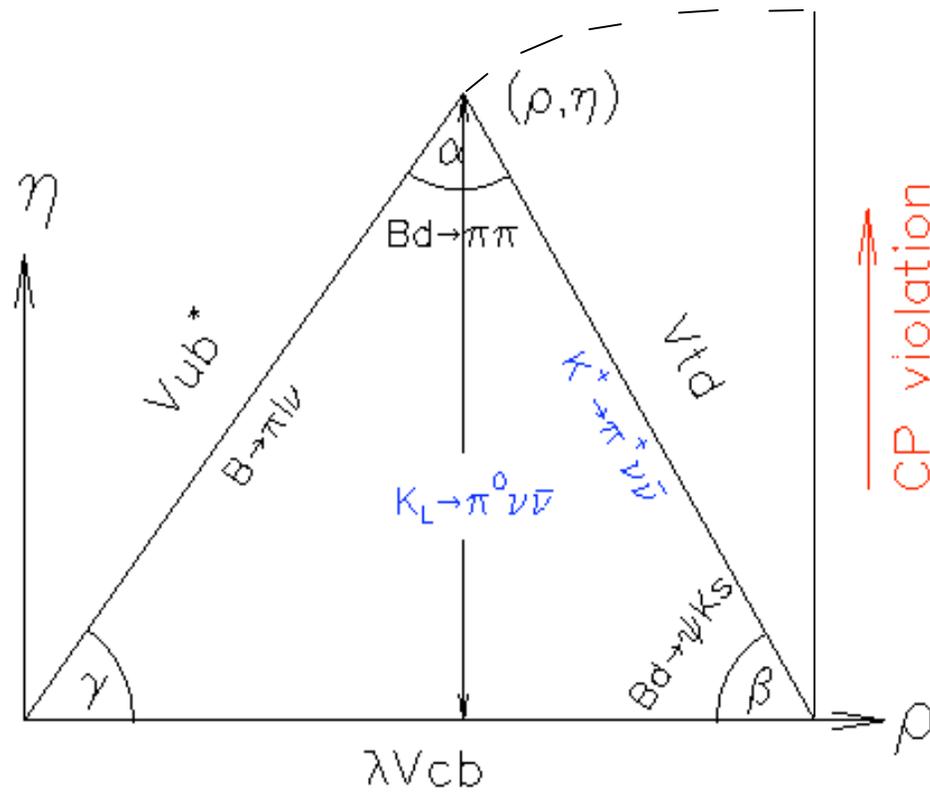
HISTORY & EXPECTATIONS



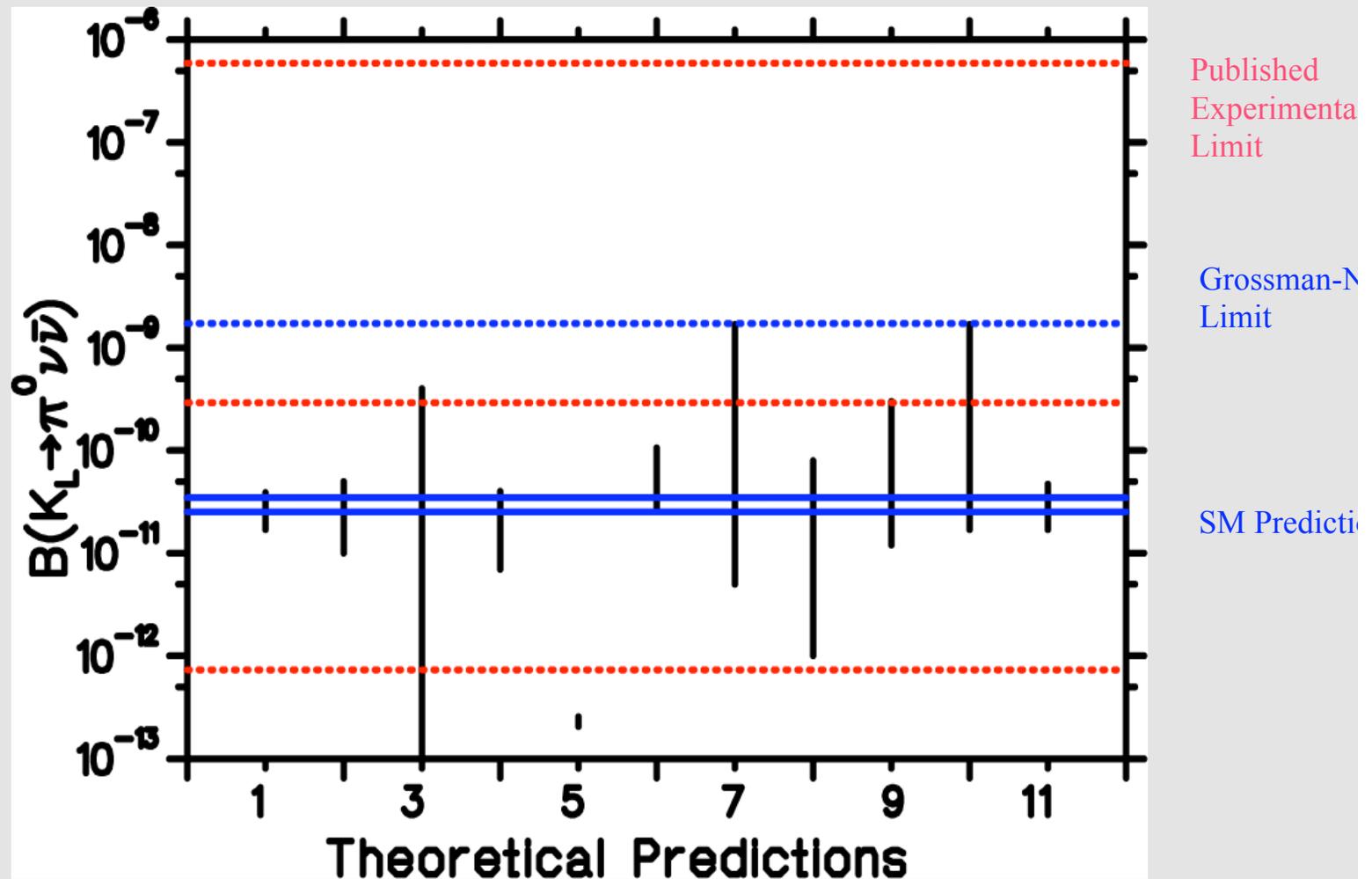
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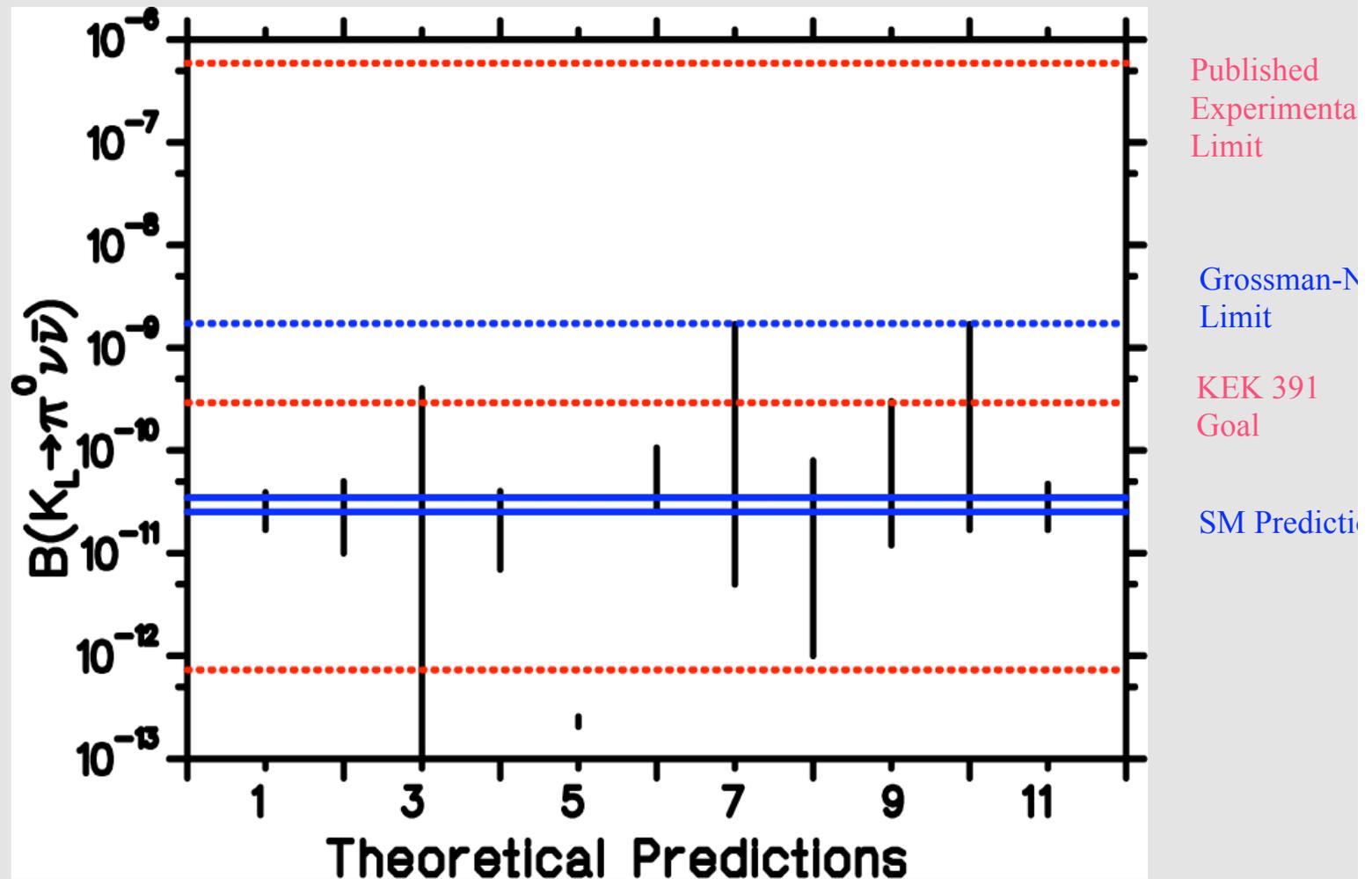
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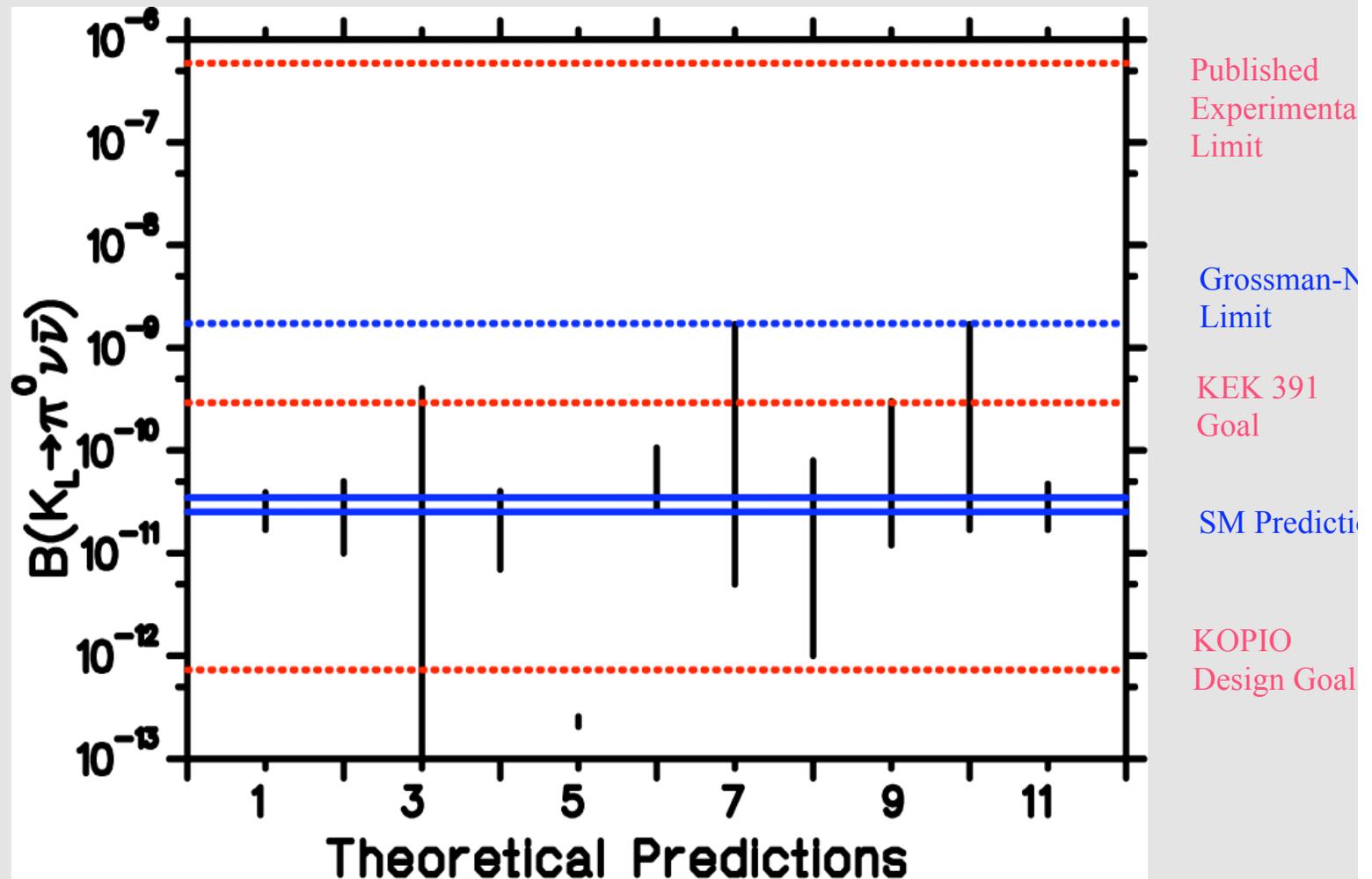
HISTORY & EXPECTATIONS



HISTORY & EXPECTATIONS



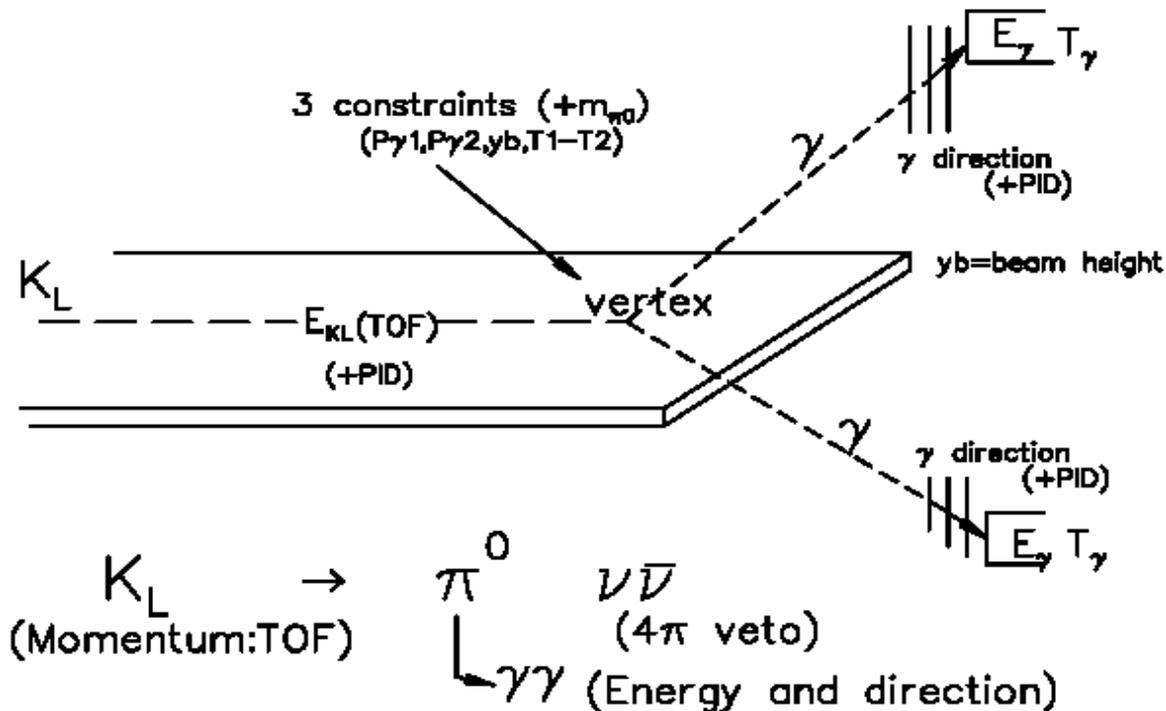
HISTORY & EXPECTATIONS



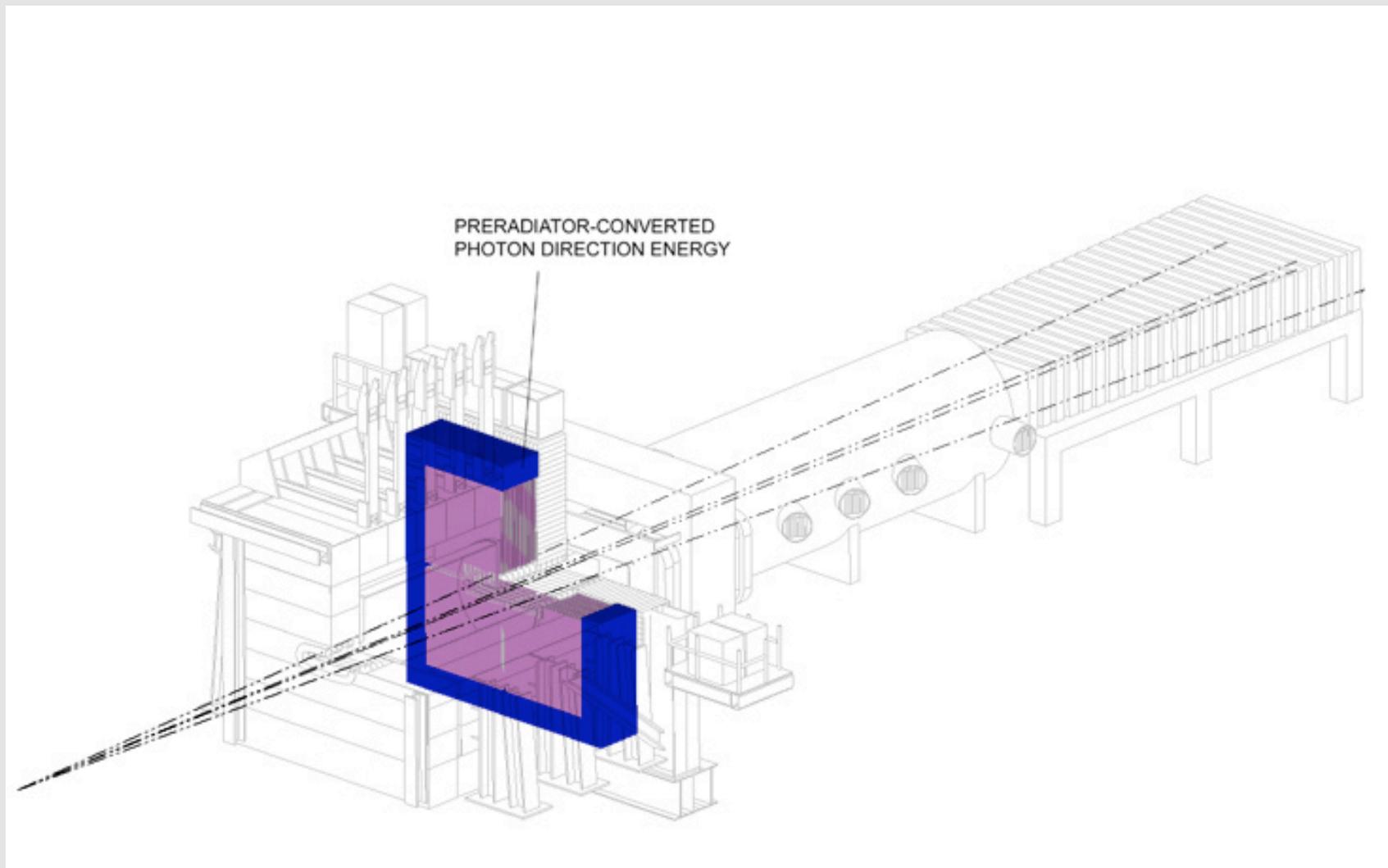
EXPERIMENTAL DESIGN

Full kinematic reconstruction and particle identification

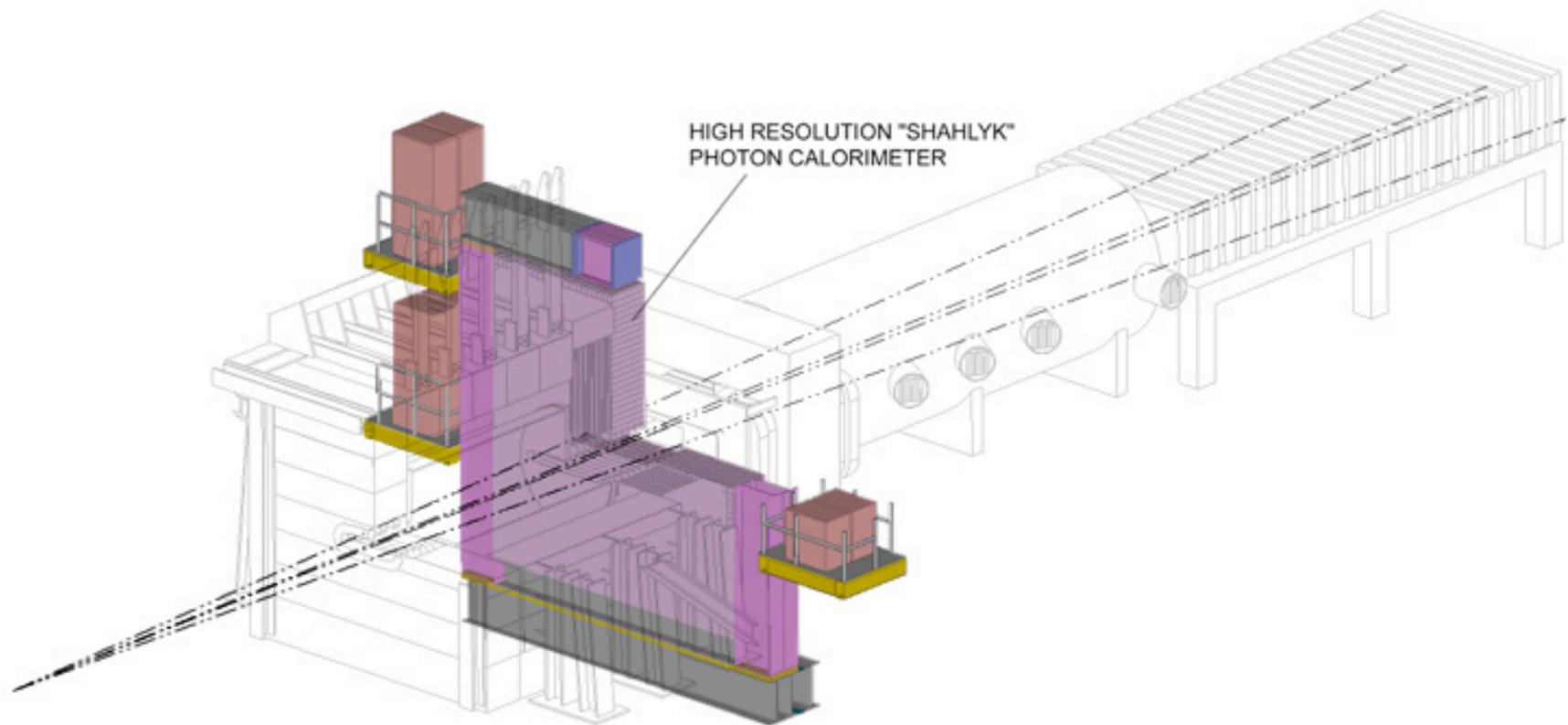
- Preradiator: γ direction, energy, PID
- EM Calorimeter: γ energy
- RF bunched beam: K_L energy and PID
- Vertex reconst.: K_L direction (3 constraints)



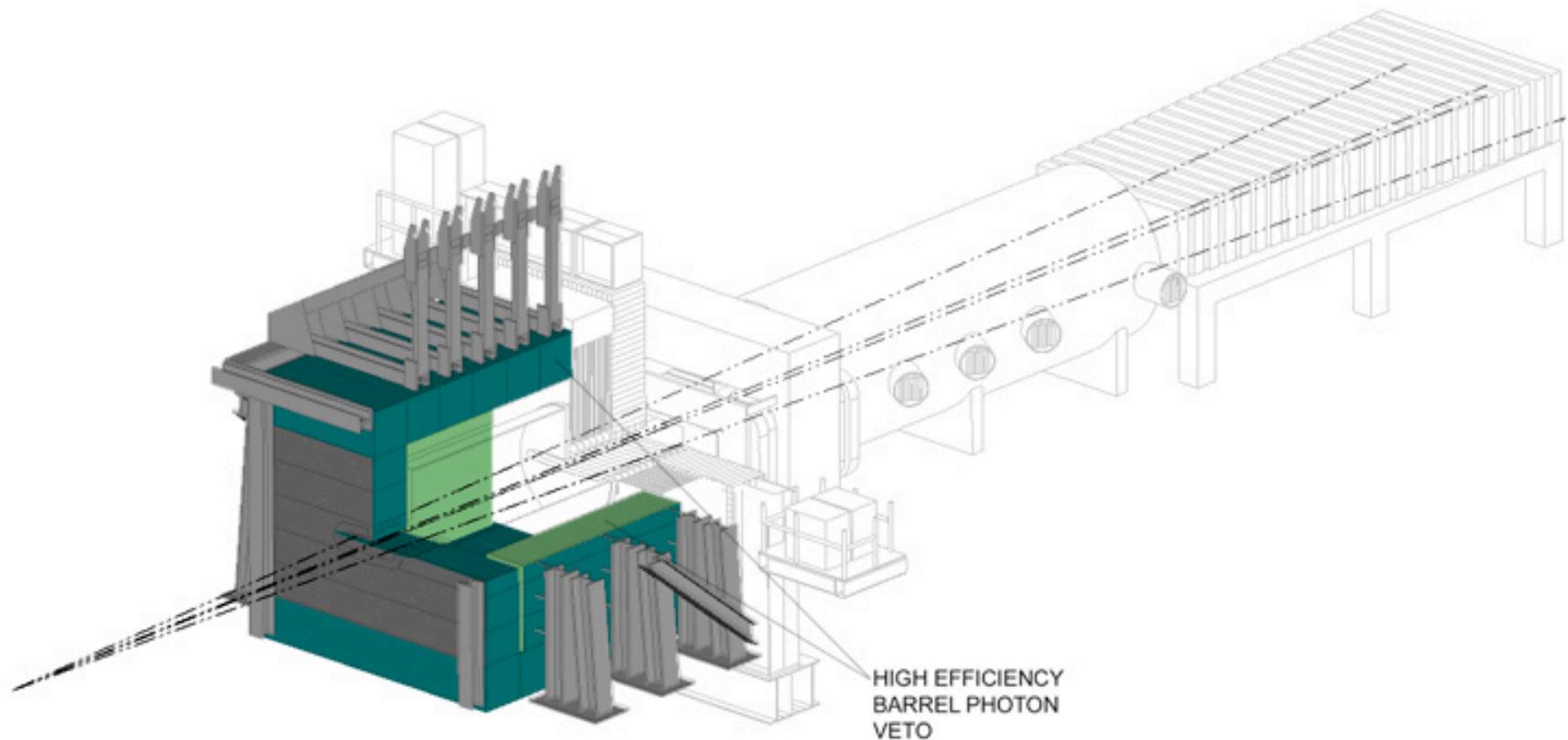
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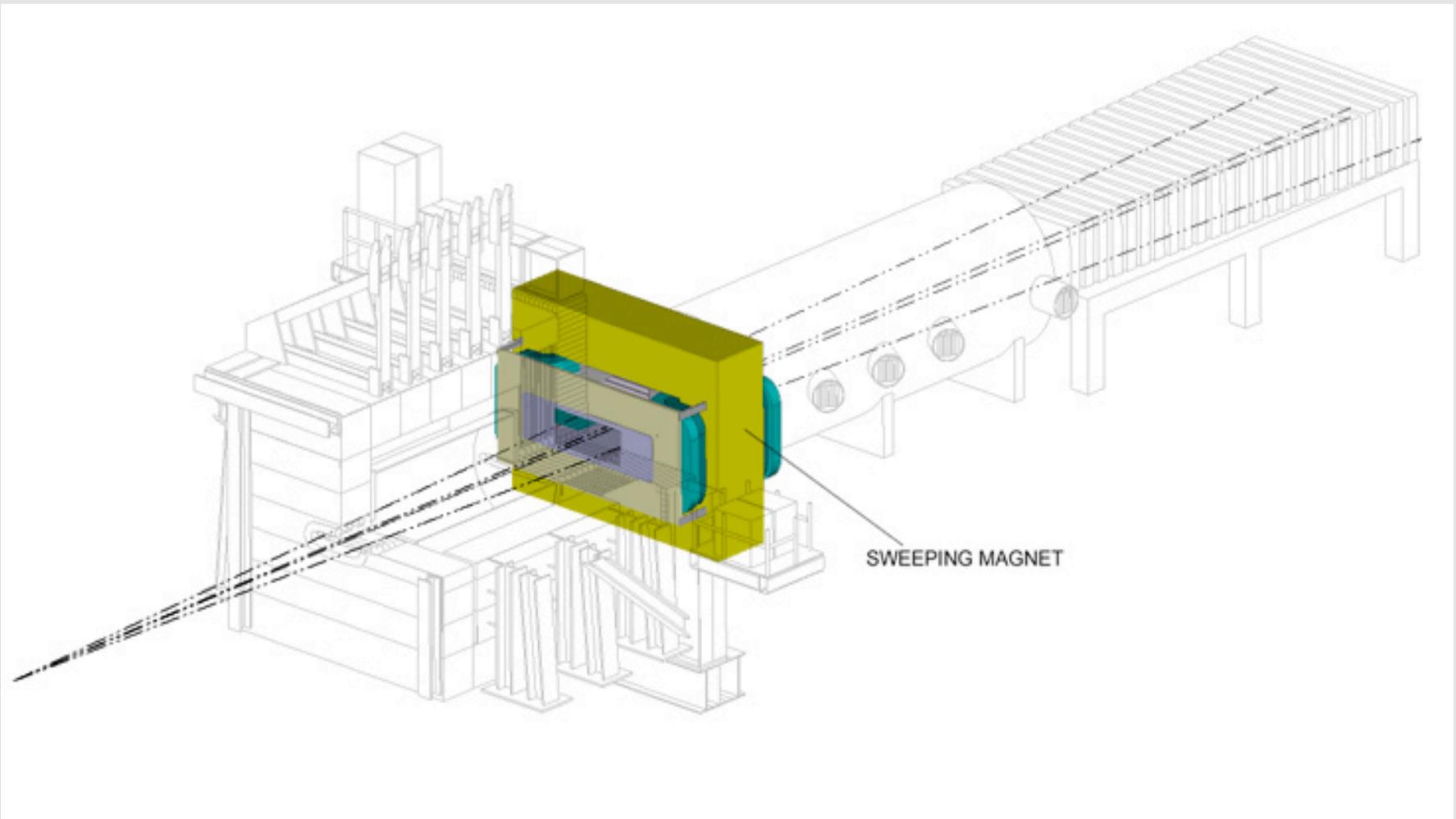
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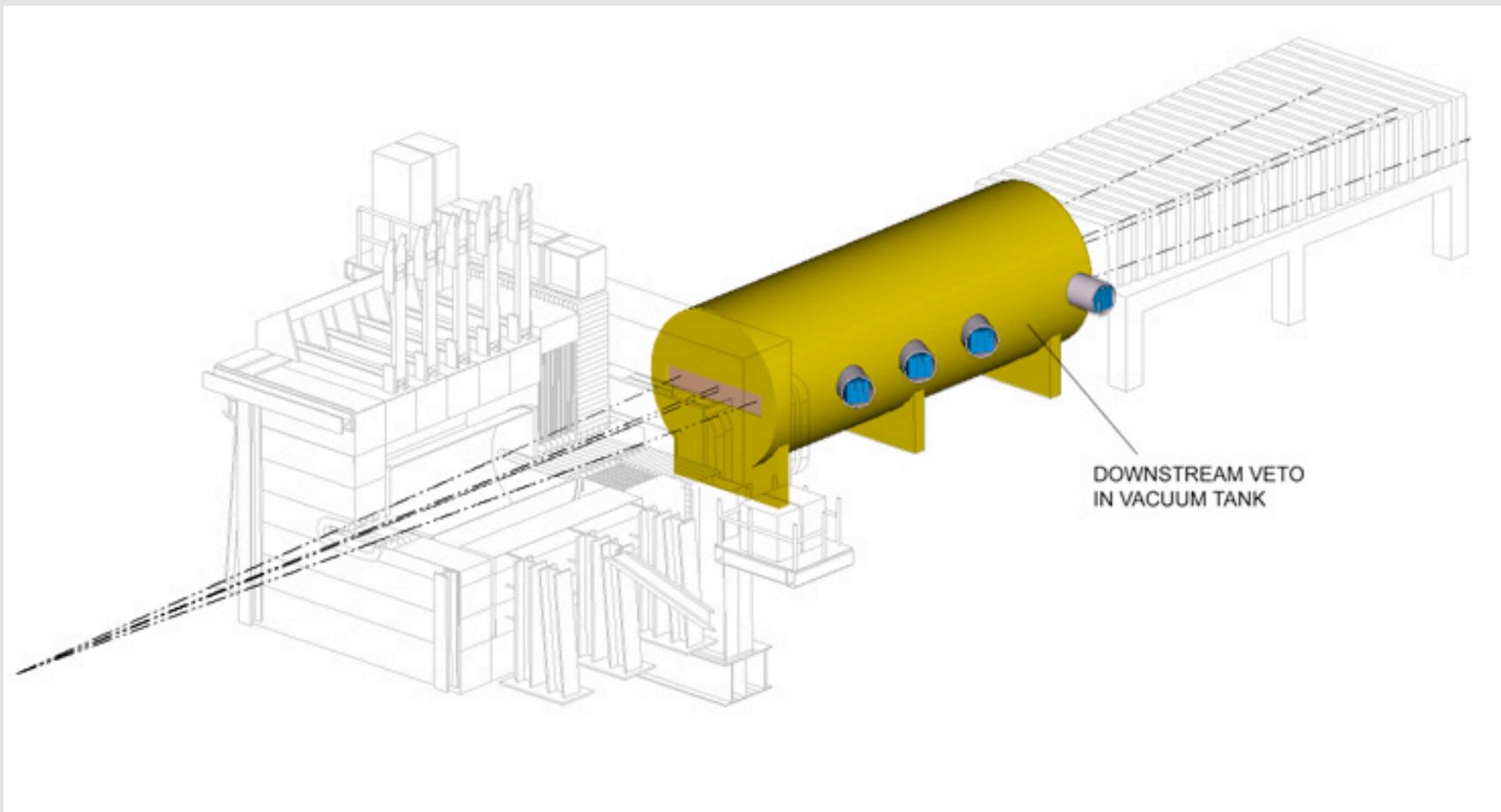
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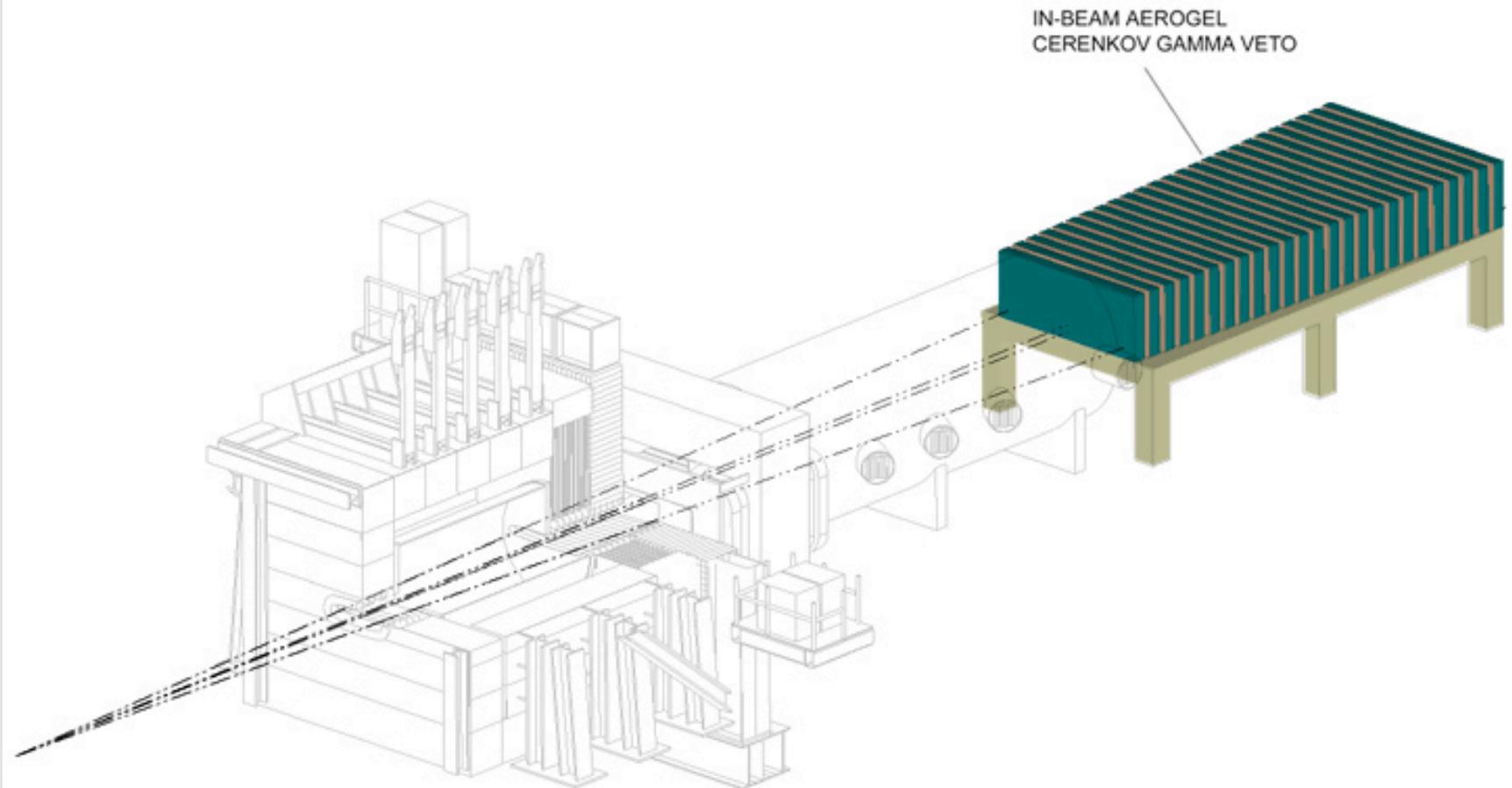
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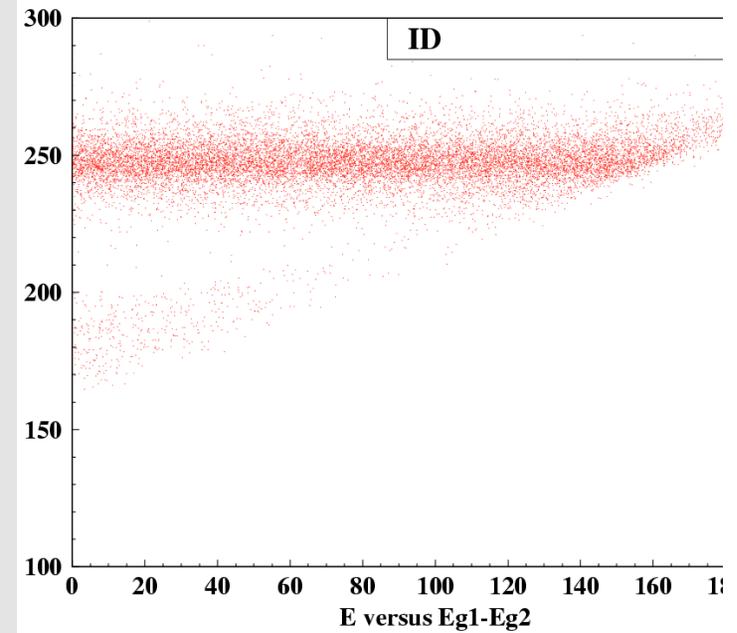
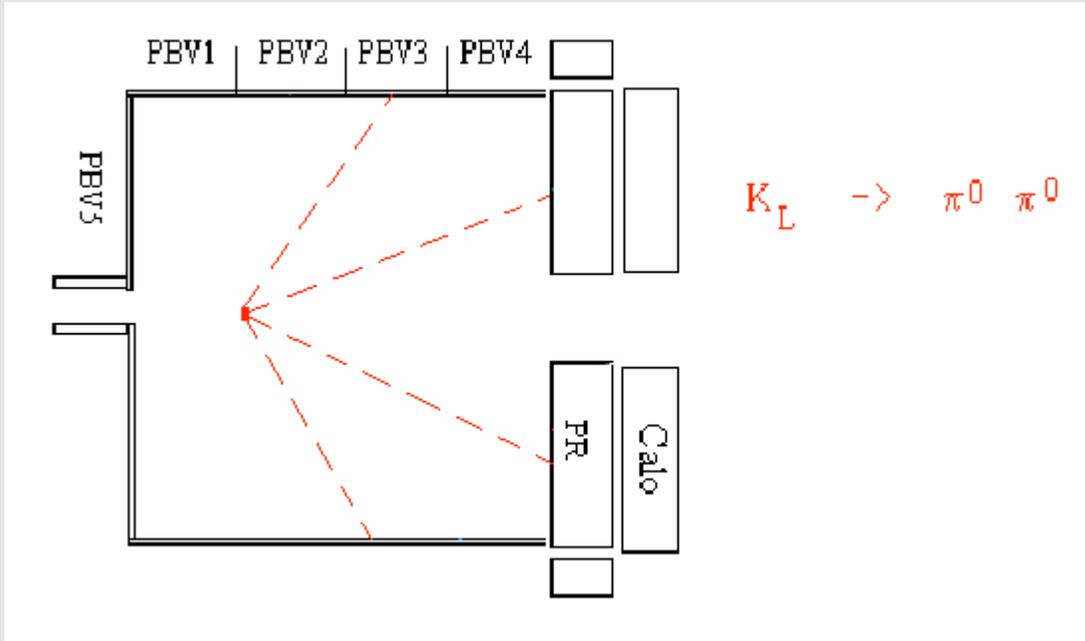
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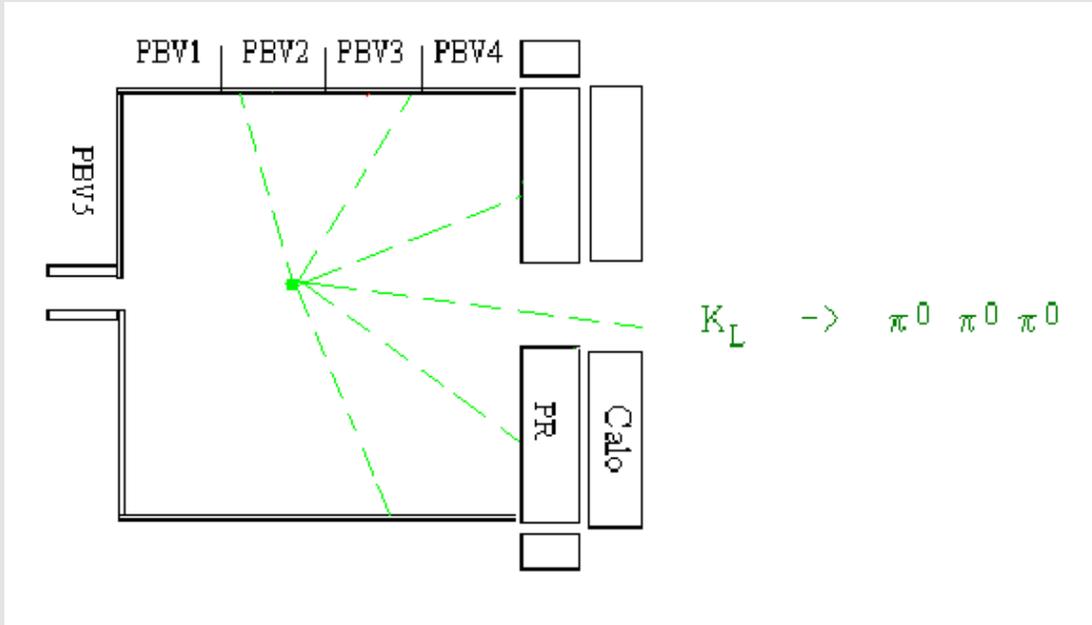
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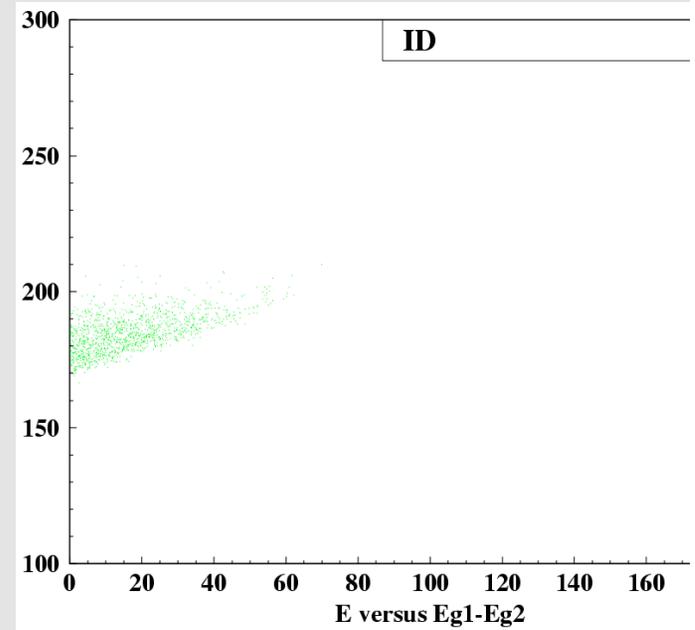
EXPECTED SIGNAL/NOISE



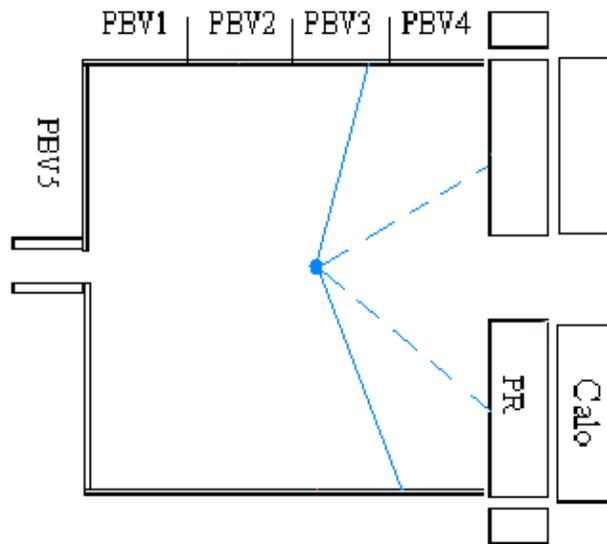
EXPECTED SIGNAL/NOISE



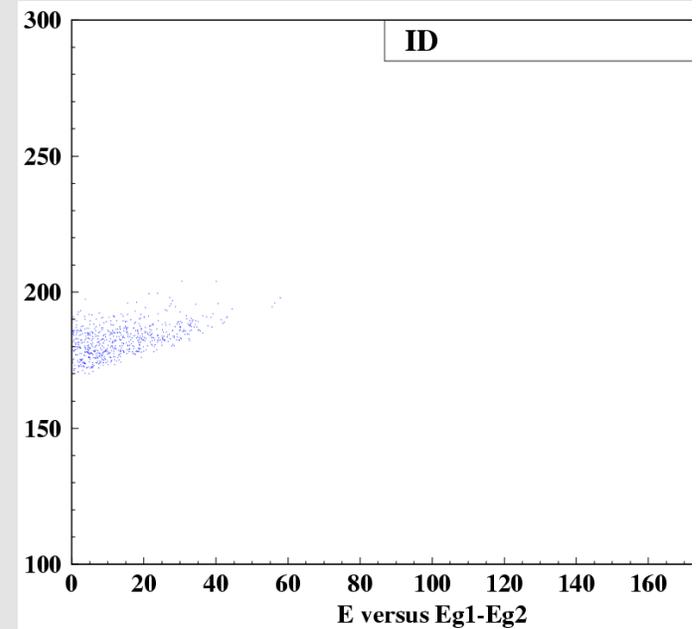
$K_L \rightarrow \pi^0 \pi^0 \pi^0$



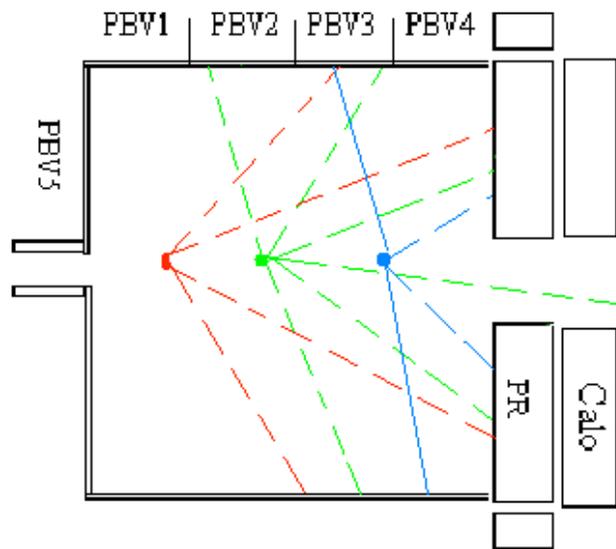
EXPECTED SIGNAL/NOISE



$K_L \rightarrow \pi^+ \pi^- \pi^0$



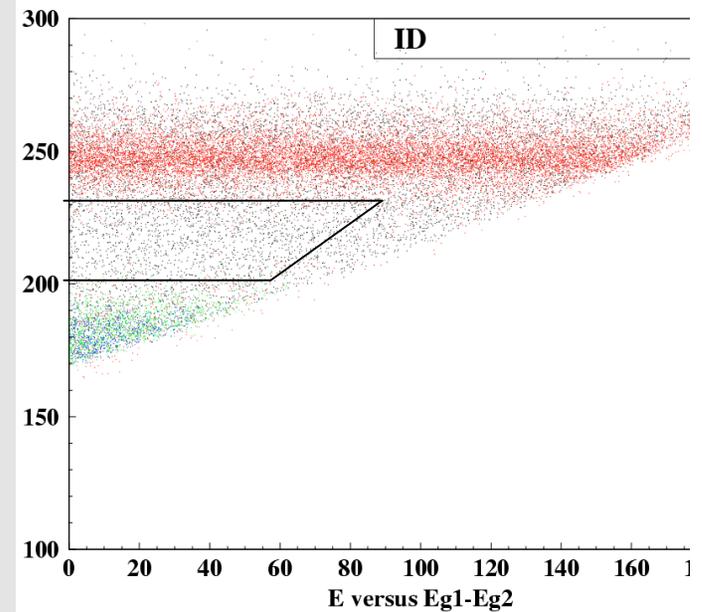
EXPECTED SIGNAL/NOISE



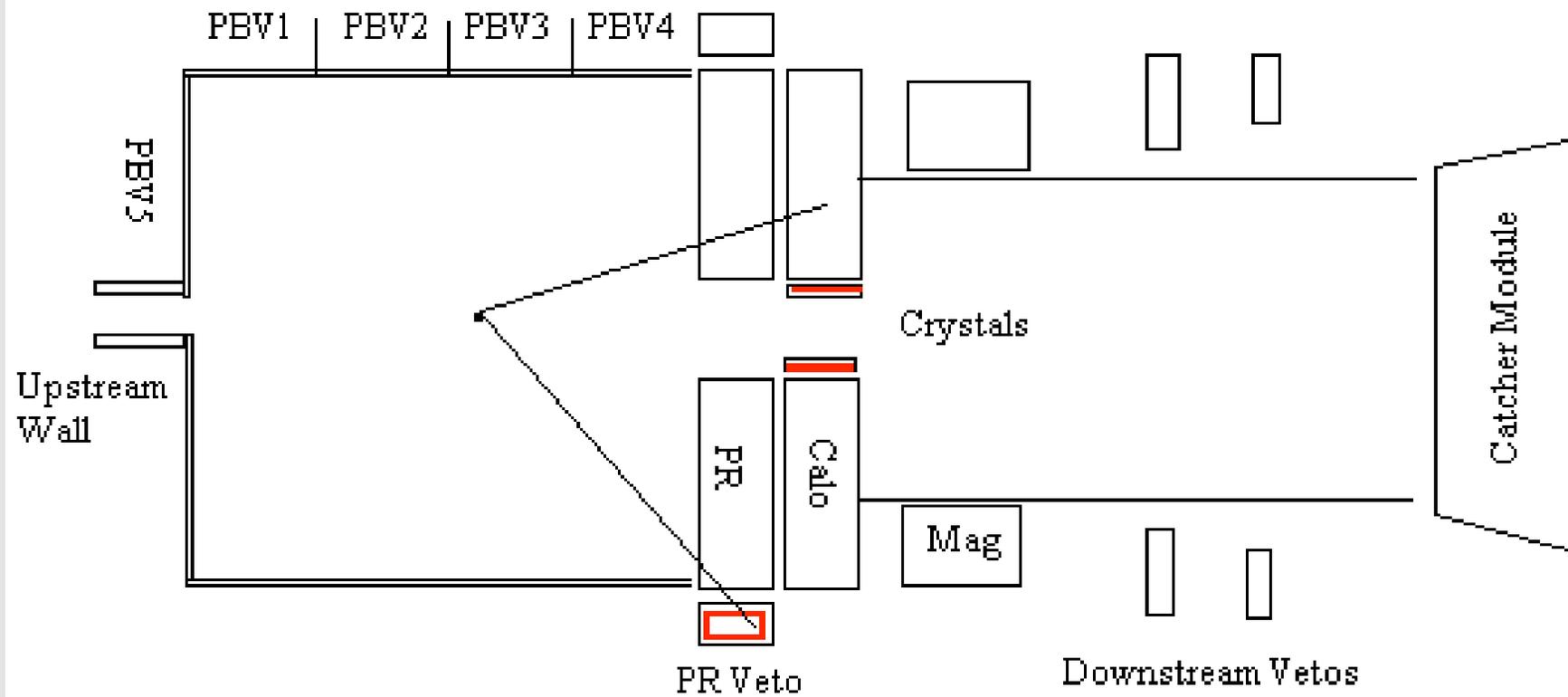
$K_L \rightarrow \pi^0 \pi^0$

$K_L \rightarrow \pi^0 \pi^0 \pi^0$

$K_L \rightarrow \pi^+ \pi^- \pi^0$



ENHANCING THE SIGNAL



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